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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/557,262	04/24/2000	Robert D. Rosenberg	P-6169-US	8522

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EXAMINER

SHUKLA, RAM R

ART UNIT PAPER NUMBER

1632

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/557,262

Applicant(s)

ROSENBERG ET AL.

Examiner

Ram R. Shukla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 92-109 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 92-109 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: Notice to comply with sequence rules; Examiner's amendment; Reasons for allowance and Examiner's comments.

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment which places this application in condition for allowance. During a telephone conversation conducted on 3-23-04, Teitelbaum requested an extension of time for one MONTH(S) and authorized the Director to charge Deposit Account No. 05-0649 the required fee of \$ 370.00 for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Mark Cohen (Rachel Teitelbaum) on 3-23-04. It is noted that new claims were provided by applicants by email and have been incorporated in this examiner's amendment as discussed during the telephonic conversation on 3-23-04.

2. The application has been amended as follows:

**IN THE CLAIMS:**

Claims 61-91 have been cancelled.

Following new claims 92-109 have been added.

--92. An isolated nucleic acid molecule comprising a nucleic acid sequence consisting of nucleotides 323 to 1255 of SEQ ID NO: 1, wherein said nucleic acid sequence encodes a polypeptide having 3-O-sulfotransferase activity.

93. The isolated nucleic acid molecule of claim 92, wherein said nucleic acid sequence encodes a polypeptide comprising amino acid residues 53-311 or 21-307 of SEQ ID NO: 2, and wherein said polypeptide has 3-O-sulfotransferase activity.

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94. An isolated nucleic acid molecule, wherein said nucleic acid molecule comprises the nucleotide sequence in SEQ ID NO: 1.

95. An isolated nucleic acid molecule, comprising a nucleic acid sequence that has at least 90 % nucleotide sequence identity with nucleotides 323-1255 of SEQ ID NO: 1, wherein said nucleic acid sequence encodes a polypeptide having 3-O-sulfotransferase activity.

96. An isolated nucleic acid molecule, wherein said nucleic acid molecule comprises the nucleotide sequence of SEQ ID NO: 3, and wherein said nucleic acid molecule encodes a polypeptide having 3-O-sulfotransferase activity.

97. An isolated nucleic acid molecule comprising a nucleic acid sequence encoding a polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 2, wherein said polypeptide has 3-O-sulfotransferase activity.

98. An isolated nucleic acid molecule comprising a nucleic acid sequence encoding a polypeptide comprising amino acid residues 53-311 of SEQ ID NO: 2, wherein said polypeptide has 3-O-sulfotransferase activity.

99. An isolated nucleic acid molecule, comprising a nucleic acid sequence consisting of nucleotides 119-1039 of SEQ ID NO: 3, wherein said nucleic acid sequence encodes a polypeptide having 3-O-sulfotransferase activity.

100. The isolated nucleic acid of claim 99, wherein said nucleic acid sequence encodes a polypeptide comprising amino acid residues 21-303 or 49-307 of SEQ ID NO: 4, wherein said polypeptide has 3-O-sulfotranferase activity.

101. An isolated nucleic acid molecule, comprising a nucleic acid encoding a polypeptide comprising amino acid residues 49-307 of SEQ ID NO: 4, wherein said polypeptide has 3-O-sulfotransferase activity.

102. An isolated nucleic acid molecule comprising a nucleic acid sequence that has at least 90 % nucleotide sequence identity with nucleotides 119 to 1039 of SEQ ID NO: 3, wherein said nucleic acid sequence encodes a polypeptide having 3-O-sulfotransferase activity.

103. An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a polypeptide comprising the amino acid sequence set forth in of SEQ ID NO: 4, wherein said polypeptide has 3-O-sulfotransferase activity.

104. An isolated host cell comprising a nucleic acid of claims 92, 95, 98, 99, 100 or 103.

105. The isolated host cell of claim 104, wherein said host cell is selected from the group consisting of bacterial cells, yeast cells and insect cells.

106. The isolated host cell of claim 104, wherein said cell is a mammalian cell.

107. The isolated host cell of claim 104, wherein said cell is selected from the group consisting of COS-7 cells, CHO cells, murine primary cardiac microvascular endothelial cells, murine mast cell line C57.1, human primary endothelial cells of umbilical vein, F9 embryonal carcinoma cells, rat fat pad endothelial cells, and L cells.

108. A vector comprising the isolated nucleic acid of claim 92, 95, 97, 98, 99, 100, 102 or 103.

109. An isolated host cell comprising the vector of claim 108.--

3. The following is an examiner's statement of reasons for allowance:

The claimed invention is free of the prior art of record because the prior art of record does not teach or fairly suggest the nucleic acids of SEQ ID NO 1 and SEQ ID NO 3 which encode the polypeptides of SEQ ID NO 2 and SEQ ID NO 4 respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Examiner's Comments:

It is noted that the human and mouse sequences disclosed in SEQ ID NO 1 and 3 are 85% identical to each other and the encoded amino acid sequences are 93% identical to each other. Therefore, the sequences that are at least 90% identical to 323-1255 of SEQ ID NO 1 and 119-1039 of SEQ ID NO 3 are enabled.

**5. Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.**

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.

Specifically the application fails to comply with CFR 1.821(d), which states:

(d) Where the description or claims of a patent application discuss a sequence that is set forth in the "Sequence Listing" in accordance with paragraph (c) of this section, reference must be made to the sequence by use of the sequence identifier, preceded by "SEQ ID NO: " in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application.

The specification discloses nucleotide and amino acid sequences in figures 1 and 2. However, these sequences are not identified by sequence identifiers in the brief description of the figures.

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For compliance with sequence rules, it is necessary to include the sequence in the "Sequence Listing" and identify them with SEQ ID NO. In general, any sequence that is disclosed and/or claimed as a sequence, i.e., as a string of particular bases or amino acids, and that otherwise meets the criteria of 37 CFR 1.821(a), must be set forth in the "Sequence Listing." (see MPEP 2422.03).

For the response to this office action to be complete, Applicants are required to comply with the Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram R. Shukla whose telephone number is (571) 272-0735 . The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (571) 272-0804. The fax phone number for TC 1600 is (703) 703-872-9306. Any inquiry of a general nature, formal matters or relating to the status of this application or proceeding should be directed to the William Phillips whose telephone number is (571) 272-0548.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ram R. Shukla, Ph.D.  
Primary Examiner  
Art Unit 1632

  
**RAM R. SHUKLA, PH.D.  
PRIMARY EXAMINER**